



Perinatology Research Branch at Wayne State University NICHD/NIH

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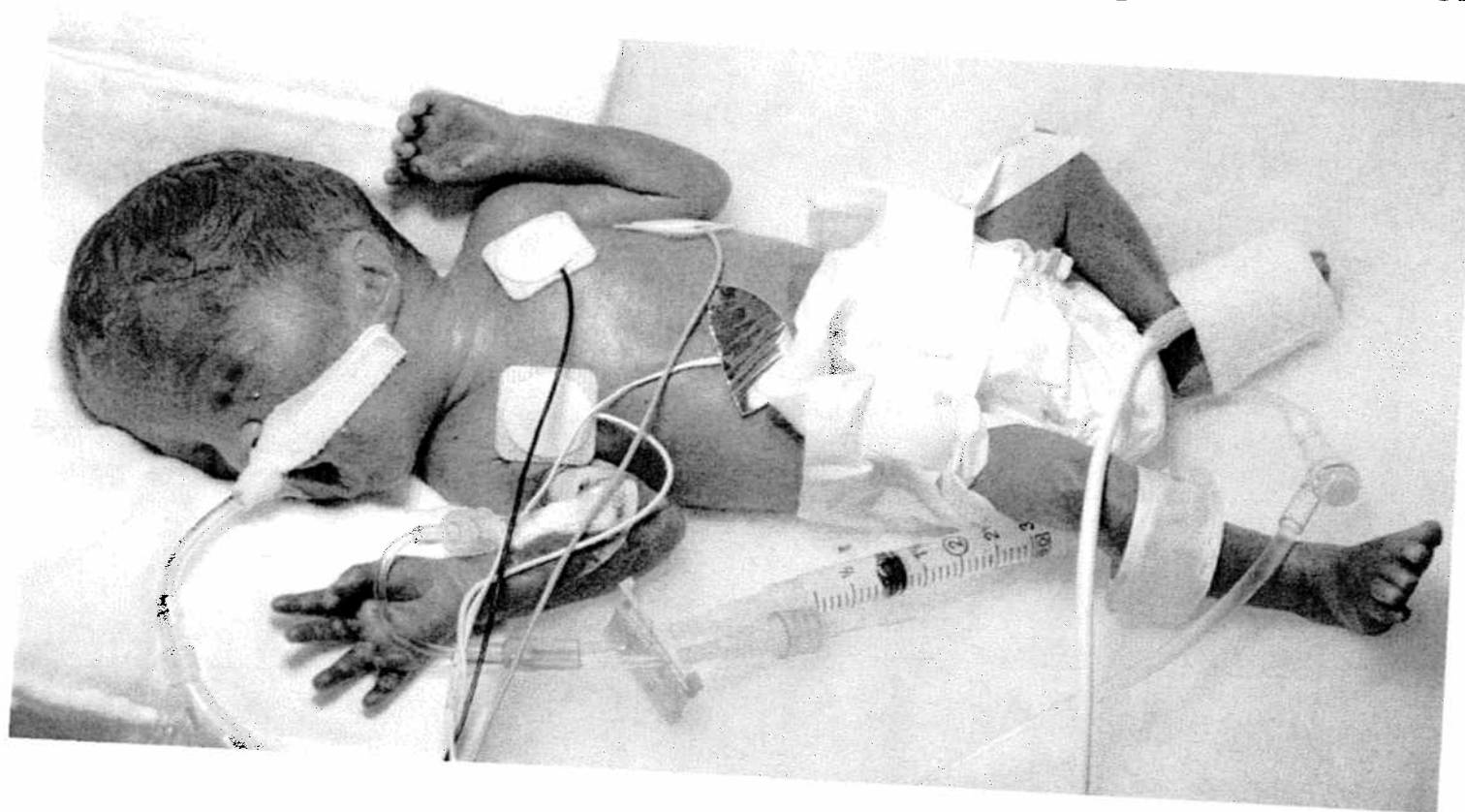
Thursday, March 24, 2011

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Infant Mortality – A Public Health Crisis

- ▶ Michigan – 7.7 infant deaths per 1,000 live births
- ▶ U.S. is 33rd in the world – infant mortality rate
- ▶ 26% of births in African American women are premature compared to 12% for Caucasians
- ▶ Premature births costs U.S. nearly \$26 billion per year
- ▶ Vast majority of cases in NICU are a result from a preterm birth.

The Prognosis of Preterm Neonates is a Function of Gestational Age at Birth

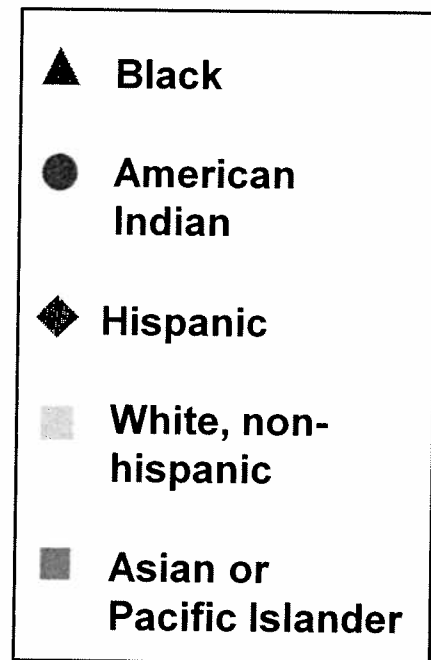
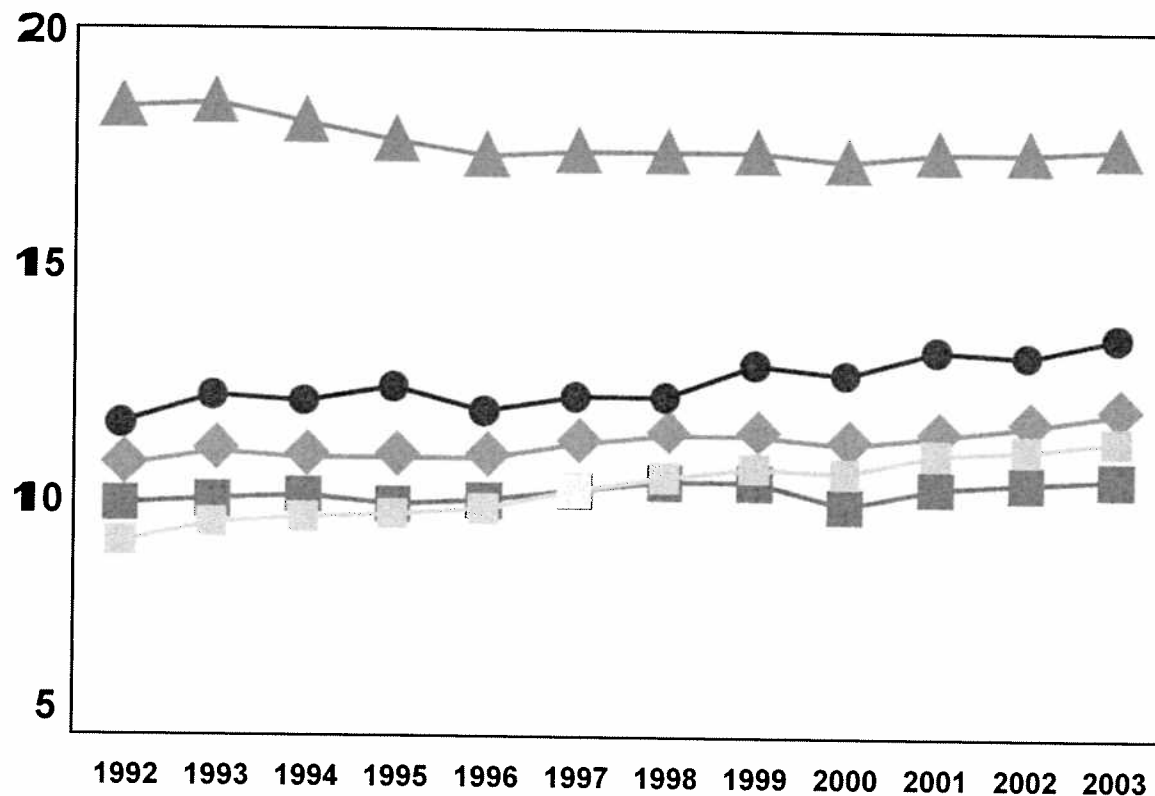


IOM Report – July 2006

“Babies born before 32 weeks have the greatest risk for death and poor health outcomes, however, infants born between 32 and 36 weeks, which make up the greatest number of preterm births, ***are still at higher risk for health and developmental problems compared to those infants born full term***”

IOM Report page 72

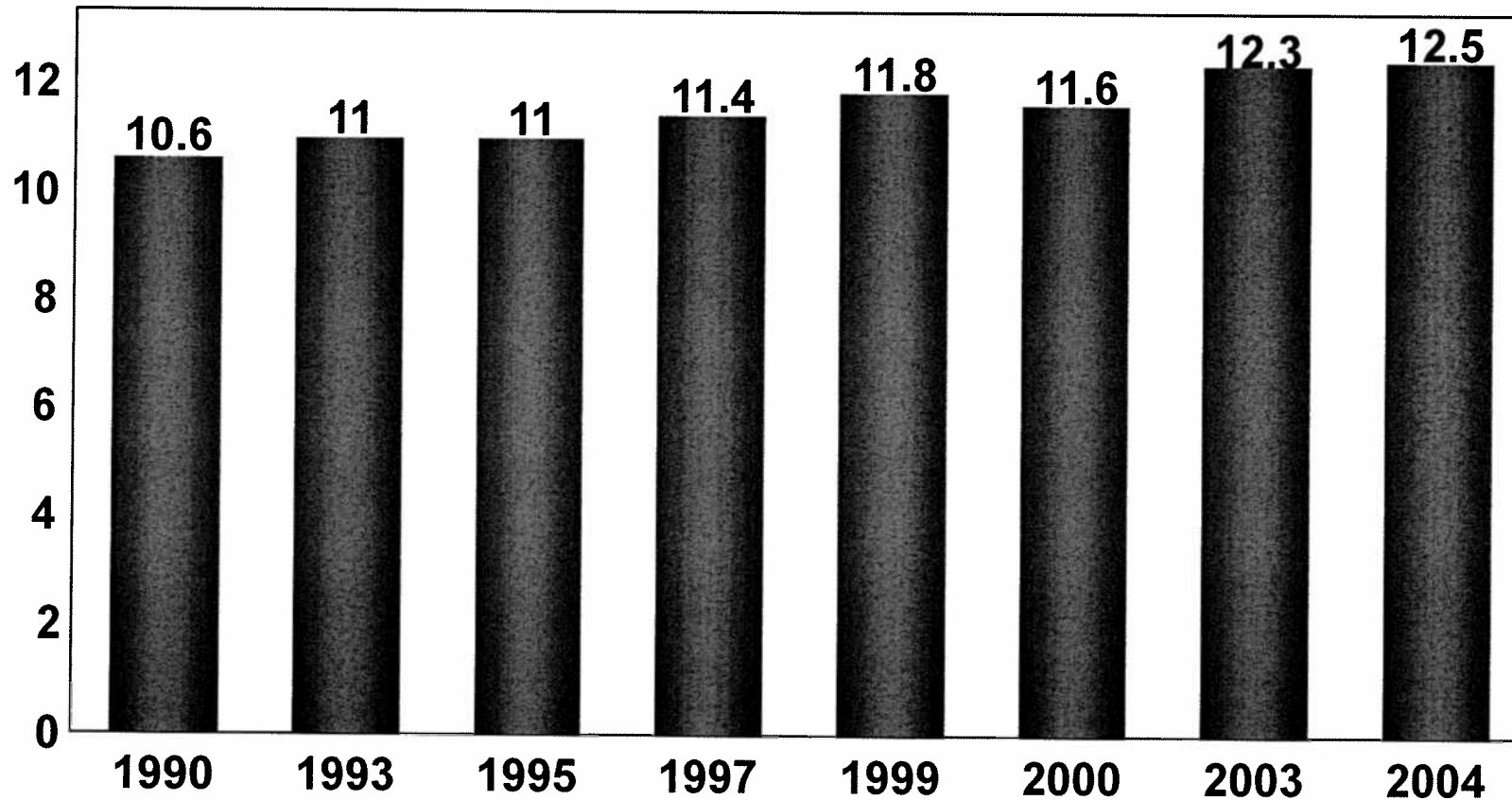
Preterm Births as a Percent of Live Births, by Race and Ethnicity, 1992 to 2003



CDC 2004.

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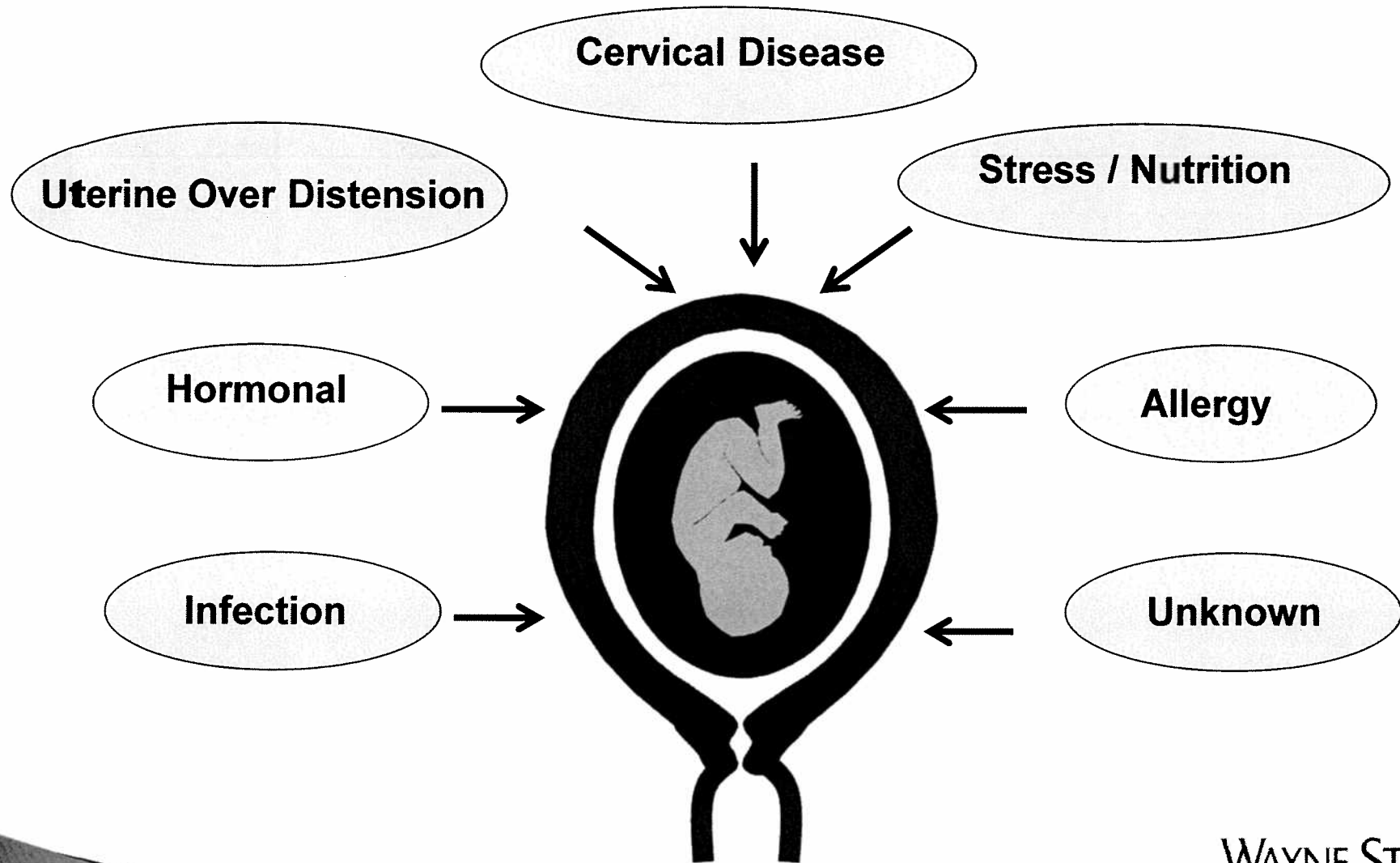
Preterm Births as a Percentage of Live Births in the United States, 1990 to 2004



Institute of Medicine. PRETERM BIRTH: CAUSES, CONSEQUENCES, AND PREVENTION. 2006.

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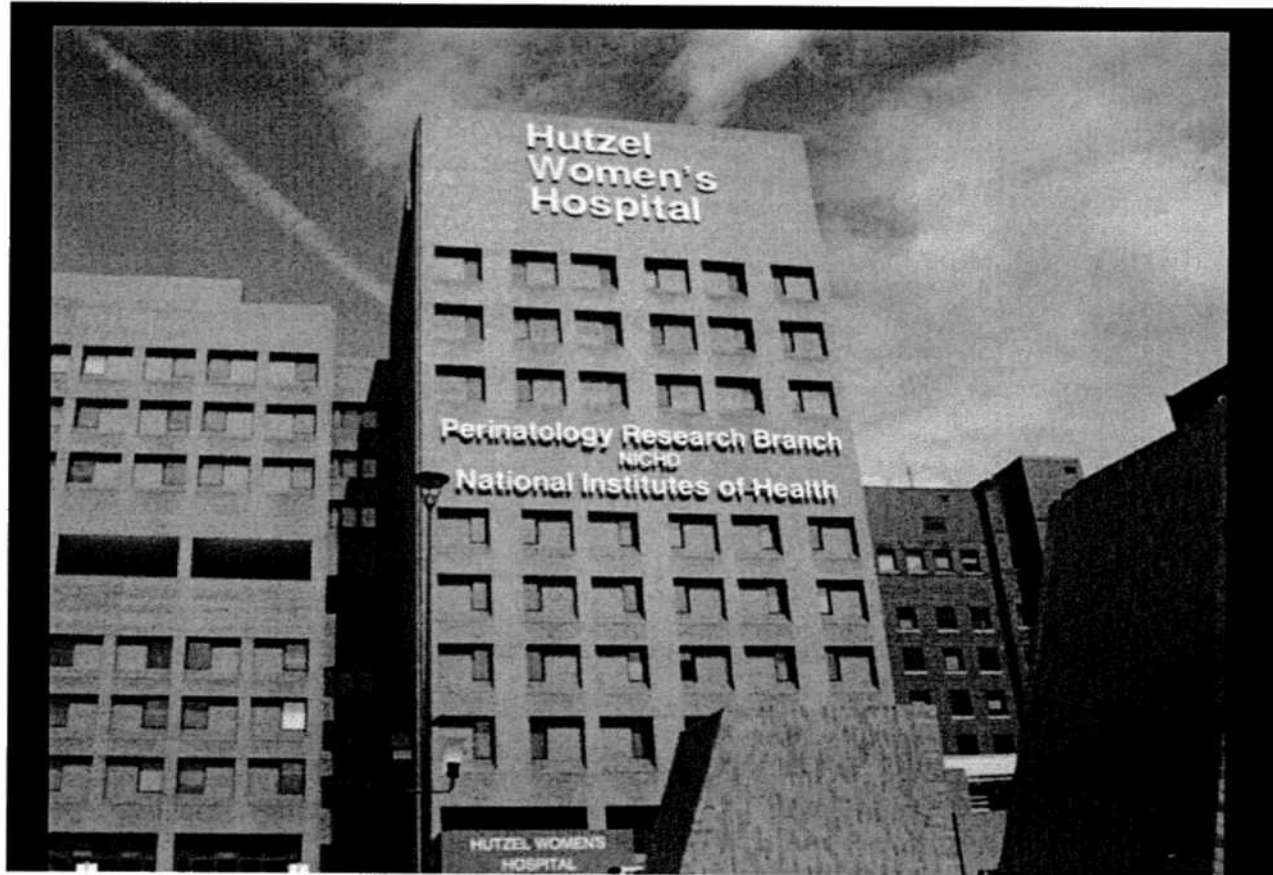
Factors Contributing to Preterm Birth



Creation of PRB

- ▶ Created by Congress in 1993 to address high rate of infant mortality with special focus on Racial and Ethnic disparity
- ▶ Branch of the National Institute of Child Health and Human Development / National Institutes of Health
- ▶ Study of pregnancy requires large patient base
- ▶ Needed to find long term home accessible by target population

The PRB at Hutzel Hospital



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PRB in Detroit, Michigan

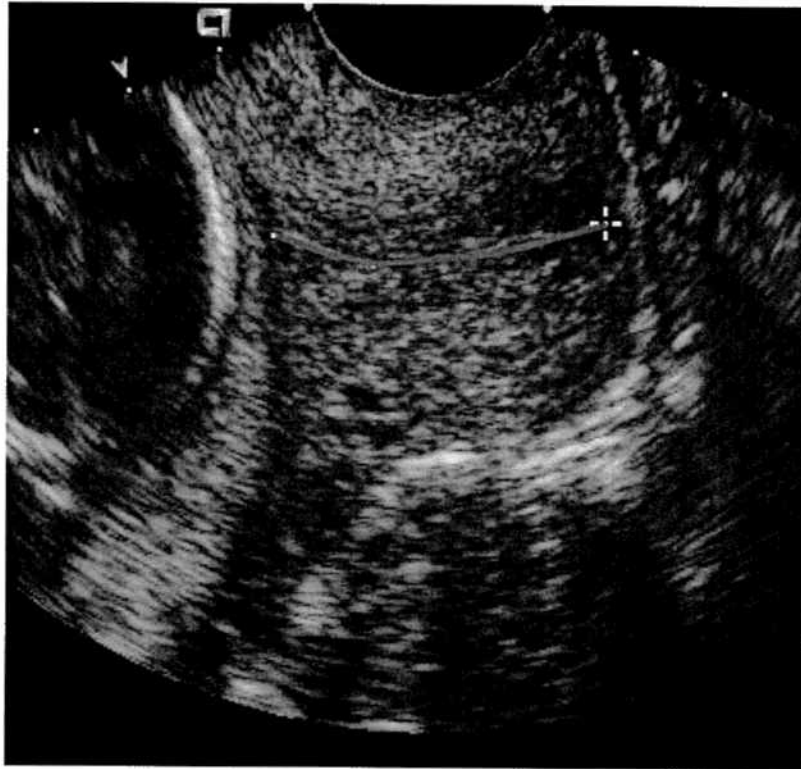
- ▶ Open competition started in 2000
- ▶ Awarded ten-year, \$167 million contract in 2002
- ▶ Why WSU? Why Detroit?
 - WSU's reputation – OB/GYN Dept.
 - Local & regional access to patients
 - \$13 million commitment from WSU & State of MI

The Science

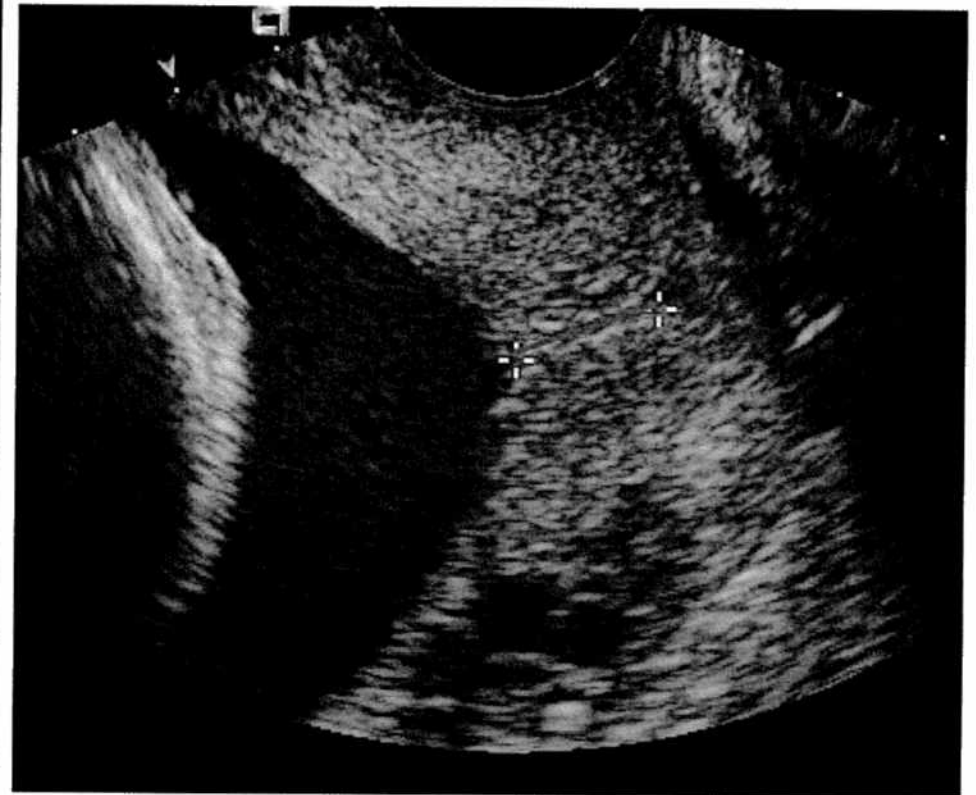
► Prematurity

- Findings of the PRB
 - Infection is found in 25% of women with preterm birth
 - Effect of shortened cervix
 - Prevention of prematurity- Progesterone Study
 - Novel approaches to treatment of cerebral palsy

A short cervix can be diagnosed by ultrasound



3.5 cm



1.4 cm

Study Shows Progesterone Reduces Risk of Premature Birth in At-Risk Mothers

Mother Develops
Infection or
Other Risk
Factors

Cervix Measured
at 20 to 25
Weeks

At-Risk
Pregnancy
Treated with
Progesterone

International Trial: Over 40 Centers Worldwide



Cerebral Palsy

- ▶ 10,000 children diagnosed per year
- ▶ Severe impairment to motor skills
- ▶ Costs \$11.5 million per year
- ▶ Findings
 - Fetal Inflammatory Response Syndrome
 - Treatment - Nanotechnology



Romero R, PRB

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Fetal Inflammatory Response



Periventricular Leukomalacia



Preterm Birth



Cerebral Palsy

Financial Impact of the PRB

- ▶ Will yield over \$150 million in direct NIH funding over ten-year contract and \$50 million of in-direct support
- ▶ Makes up 10% of annual research support for WSU
- ▶ Employs 130 direct and 200 indirect knowledge based jobs at the University and across the region
- ▶ Generates \$35 Million per year in economic impact with over \$14 million in actual earnings to Michigan citizens

Center for Advanced Obstetrical Care and Research

- ▶ Early enrollment of at risk women into PRB protocols
- ▶ Patient Care (WSU and DMC)
 - 20,000 Patients Since 2002
 - Comprehensive biophysical assessment:
 - Ultrasound, Doppler, Echocardiography
 - Comprehensive assessment of outcome
- ▶ Education and Social Support

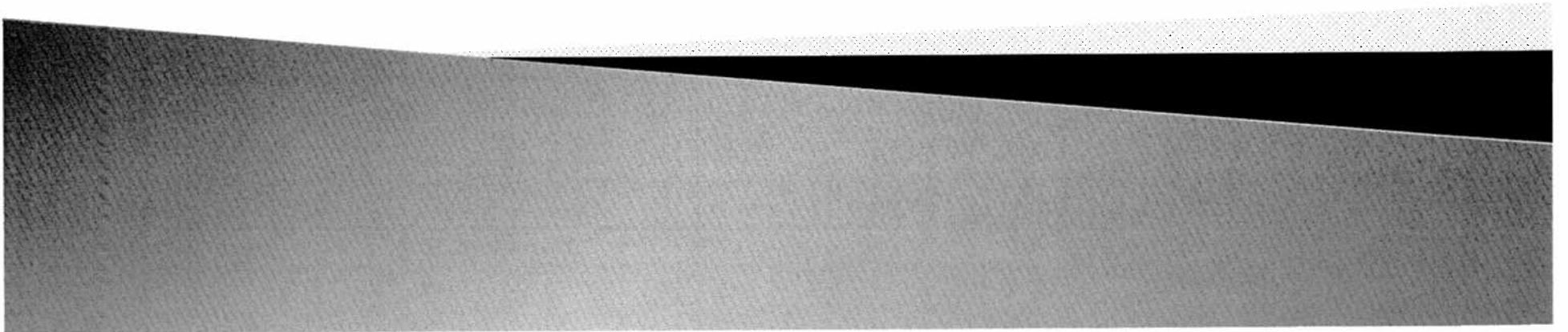
2012 Recompensation

- ▶ Process of Recompensation
- ▶ Competitors
- ▶ Key Reasons to Stay in Michigan
 - Success of the PRB while at WSU
 - Access to high level care not otherwise available
 - First access to new treatments
 - Investment from University
 - Effect on community
 - Stability – disruption of research if moved

How You Can Help Decrease Infant Mortality

- ▶ House Resolution in support of WSU's application for recompetition to keep the Perinatology Research Branch of NICHD/NIH here in Michigan
- ▶ Voice the priority to members of the Michigan Congressional Delegation

QUESTIONS?





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